ABSTRACT OF THE DISCLOSURE

This invention includes atomic layer deposition methods of depositing oxide comprising layers on substrates. In one implementation, a substrate is positioned within a deposition chamber. A first species is chemisorbed to form a first species monolayer onto the substrate within the deposition chamber from a gaseous first precursor. The chemisorbed first species is contacted with a gaseous second precursor effective to react with the first species to form an oxide of a component of the first species monolayer. The contacting at least in part results from flowing O_3 to the deposition chamber, with the O_3 being at a temperature of at least 170°C at a location where it is emitted into the deposition chamber. The chemisorbing and the contacting are successively repeated to form an oxide comprising layer on the substrate. Additional aspects and implementations are contemplated.